EXHIBIT 46

IN THE UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF DELAWARE

In re)
) Chapter 11
RS FIT NH LLC,) Case No.: 20-11558 (KBO)
)
Debtor.) (Jointly Administered)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
)
24 HOUR FITNESS WORLDWIDE, INC.,)
)
Plaintiff,)
)
vs) Adv. Proc. No.:
) 20-51051 (KBO)
CONTINENTAL CASUALTY COMPANY;)
ENDURANCE AMERICAN SPECIALTY)
INSURANCE COMPANY; et al.,)
)
Defendants.)
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

VIDEOTAPED EXPERT DEPOSITION OF
DR. ALEXIS SAUER-BUDGE

August 25, 2023
9:11 a.m.

DLA Piper
33 Arch Street, No. 26
Boston, Massachusetts

Deborah J. Bateman, Court Reporter

APPEARANCES OF COUNSEL

On Behalf of the Plaintiff 24 Hour Fitness Worldwide, Inc.:
DAVID E. WEISS, ESQ.
ELIZABETH BOWMAN, ESQ.
REED SMITH LLP
101 Second Street, Suite 1800
San Francisco, California 94105
415.659.5966
Dweiss@reedsmith.com

On Behalf of the Defendant Allied World National Assurance Company:
DEANNA M. MANZO, ESQ.
MOUND COTTON WOLLAN & GREENGRASS LLP
One New York Plaza, 44th Floor
New York, New York 10004
212.804.4587
Dmanzo@moundcotton.com

On Behalf of the Defendant Liberty Mutual Insurance Company:

JOEL L. MCNABNEY, ESQ.
ROBINSON + COLE
777 Brickell Avenue, Suite 680
Miami, Florida 33131
786.725.4119
Jmcnabney@rc.com

On Behalf of the Defendants QBE Specialty Insurance Company and General Security Indemnity Company of Arizona:

DENNIS C. ANDERSON, ESQ. (via Zoom)
ZELLE LLP
500 Washington Avenue South, Suite 4000
Minneapolis, Minnesota 55415
612.336.9179
Danderson@zellelaw.com

APPEARANCES OF COUNSEL

On Behalf of the Defendant Allianz Global Risks U.S. Insurance Company:

MARLIE MCDONNELL, ESQ. (via Zoom)
CLYDE & CO.
271 17th Street NW, Suite 1720
Atlanta, Georgia 30363
404.410.3184
Marlie.mcdonnell@clydeco.us

On behalf of the Defendant Allied World National Assurance Company:
CALVIN S. WHANG, ESQ. (via Zoom)
SELMAN LEICHENGER EDSON HSU NEWMAN & MOORE LLP
11766 Wilshire Boulevard, Sixth Floor
Los Angeles, California 90025
310.689.7042
cwhang@selmanlaw.com

Also Present:

Ferdusi Z. Chowdhury, Esq.
Jacqueline Matyszczyk, Esq.
Couirey Eckmayer, Videographer

INDEX OF EXAMINATION

INDEX TO EXHIBITS

INDEX TO EXHIBITS

VIDEOTAPED EXPERT DEPOSITION OF DR. ALEXIS SAUER-BUDGE

August 25, 2023

THE VIDEOGRAPHER: This is tape number one to the videotaped deposition of Dr. Alexis Sauer-Budge in the matter of 24 Hour Fitness Worldwide versus Continental Casualty Company, et al., being heard before the U.S. Bankruptcy Court, District of Delaware, Case Number 20-11568 (KBO).

This deposition is being held at DLA Piper in Boston, Massachusetts, on Friday, the 25th of August 2023 at 9:11 a.m. My name is Couirey Eckmayer, and I'm the videographer. The court reporter is Deborah Bateman.

Counsel, will you please introduce yourselves and affiliations. And the witness will be sworn in.

MR. WEISS: Good morning. David Weiss from Reed Smith on behalf of the plaintiff. And with me is Elizabeth Bowman, also from Reed Smith.

MS. MANZO: Deanna Manzo with Mound Cotton Wollan & Greengrass on behalf of Allied World Assurance Company.

MR. MCNABNEY: Joel McNabney on behalf of Defendant Liberty Mutual Insurance Company.

MR. ANDERSON: Dennis Anderson on behalf of

QBE Specialty Insurance Company and General Security Indemnity Company of Arizona.

MS. MCDONNELL: Marlie McDonnell of Clyde & Co. on behalf of Defendant Allianz.

MR. WHANG: Calvin Whang for -- with Selman Leichenger with -- on behalf of Allied World.

DR. ALEXIS SAUER-BUDGE, having been first satisfactorily identified and duly sworn, testified as follows:

EXAMINATION

BY MR. WEISS:

Q. Good morning, Doctor. My name is David Weiss from Reed Smith. I represent the plaintiff in this action. Have you given a deposition before?

A. I have.

Q. On approximately how many occasions?

A. Seven, I think.

Q. Have you testified in court before?

A. I have.

Q. On approximately how many occasions?

A. One.

Q. Were the -- all the prior depositions that

you've given in the context of you being an expert witness?

A. Yes.

Q. And the same for your court testimony?

A. Yes.

Q. Okay. I'll go through some deposition ground rules just so that we're on the same page.

First of all, do you understand that you're under oath?

A. I do.

Q. Do you understand the oath that you've taken has the same effect as if you were testifying in court?

A. Yes.

Q. The court reporter will be taking down the testimony today, and there'll be -- besides you and me, there may be other people in the room talking. Counsel might raise objections. So it's important that we not talk over one another. Are you okay with that?

A. Of course.

Q. Yeah. So if you'll just wait for me to finish my question before you answer, and I'll try to wait for you to finish your answer before you -- before I ask my next question, and we be mindful of counsel, everybody in the room would have a better day, and -- including the

Page 105

greater than or equal to six feet apart. In addition, facilities should provide engineering and administrative controls including improving ventilation, enforcing physical distancing, increasing opportunities for hand hygiene, and reminding all employees and patrons to (1) isolate when experiencing COVID-like systems or after receiving a positive SARS-CoV-2 test; and (2) quarantine after a potential exposure to SARS-CoV-2 and while awaiting test results. Conducting exercise activities entirely outdoors or virtually could further reduce SARS-CoV-2 transmission risk." Do you see all of that?

A. I do.

Q. Would you consider those statements to be outside of the -- outside of your opinions in this case?

A. Yes.

MR. WEISS: Okay. Let's go to 10.

(Exhibit No. 13, Bae Article marked for identification)

Q. So Exhibit 13 is an article titled "Epidemiological Characteristics of COVID-19 Outbreak at Fitness Centers in Cheonan, Korea." And it was accepted July 31, 2020. Is this another article that's listed in your Appendix C?

A. Yes, it is.

Page 106

Q. This was one of the articles that you found in your review of articles about incidents of fitness clubs?

A. Yes, that's correct.

Q. On page 2 of 9, in the third paragraph towards the middle, it says, "However, considering that COVID-19 is transmitted by droplet and fomites, high-impact group exercise in a confined indoor spaces, such as a Zumba class, could provide an environment prone to easy transmission of SARS-CoV-2 infection as the droplets produced by exhalation or cough of a patient during the exercise have higher chance of reaching the nose, mouth, or eye of other class participants directly, as well as remaining on the surface of the exercise equipment and later transmitted by contact." Do you see that?

A. Yes.

Q. Do you agree that exercise -- high-impact group exercise in a confined indoor space could provide an environment prone to the easy transmission of SARS-CoV-2?

MS. MANZO: Objection to form.

A. Opinions regarding transmission are outside of my scope of assignment in this case.

Q. Do you have any opinions as -- well, strike that.

Page 107

There's a statement in here that droplets produced by exhalation or a cough of a patient could remain on the surface of the exercise equipment and later be transmitted by contact. Do you see that?

A. Yes. I'm not sure if it's -- "patient" is the correct word, but somebody infected, yes.

Q. Okay. And do you have an opinion as to whether droplets exhaled by an infected person could remain on the surface of exercise equipment and later be transmitted to someone else?

A. So only in regards to the -- what happens to the SARS-CoV-2 virus on the surface and how long it may be there. Not necessarily the part, which was the second part of your question, transmission to a person.

Q. Okay. So you have an opinion -- your opinions relate to what happens when the virus reaches the surface and how it interacts with the surface; correct?

A. That's correct, yes.

Q. And you have opinions regarding how long the virus might stay infectious on the surface; is that correct?

A. Yes, that's correct.

Q. During the time that the virus remains infectious on the surface, do you have an opinion as to

Page 108

whether that infectious virus could be transmitted to another person?

A. No.

MR. WEISS: Let's mark -- do 11.

(Exhibit No. 14, Anderson Article marked for identification)

Q. Exhibit 14 is another article titled "An Outbreak of COVID-19 Associated With a Fitness Centre in Saskatchewan: Lessons for Prevention." And it looks like this was published in November of 2021. Is this another article that's listed in your Appendix C?

A. Yes, it is.

Q. And is this, again, one of the articles that you located regarding fitness clubs?

A. Yes. During that search, exactly.

MR. WEISS: All right. Let's go to the next one.

(Exhibit No. 15, Jang Article marked for identification)

Q. Exhibit 15 is titled "Cluster of Coronavirus Disease Associated with Fitness Dance Classes, South Korea." And it looks like it was published in August of 2020. Dr. Sauer-Budge, is this another article that was listed on your Appendix C?

Page 109

A. Yes, that's correct.
Q. And, again, this was an article that you located when you were looking for articles about fitness clubs?
A. That is correct.
Q. Okay. On page 1919, in the bottom of the first column, it says, "Characteristics that might have led to transmission from the instructors in Cheonan include large class sizes, small spaces, and intensity of the workouts. The moist warm atmosphere in a sports facility coupled with turbulent airflow generated by intense physical exercise can cause more dense transmission of isolated droplets." Do you see that?
A. I do.
Q. Okay. Is it your view that that's outside of your expertise?
A. With regard to the transmission of COVID, yes. With regards to the -- what happens to the virus in the air under different environmental conditions, then that is part of my opinion.
Q. Okay. And how -- what is your opinion with respect to how turbulent airflow within a fitness club might affect how the virus is transmitted?
A. So my opinion isn't necessarily with regards

Page 110

to the airflow, but instead with regards to the, it says early in that sentence, "moist and warm atmosphere." So with regards to those.
Q. Okay. And what -- what is your opinion with respect to moist and warm atmosphere and how that impacts the movement of the virus or the virus in general, if you --
MS. MANZO: Objection to the form.
A. Yeah, I don't have an opinion on how it impacts the movement of the virus. That's related to the air flow. But the -- so the data investigating the different factors that inactivate SARS-CoV-2 in droplets, partially in the air and -- since we're talking about air, I'll talk about that as well as -- but on surfaces has to do with the rate of evaporation of those droplets in the air. And the -- so the more humid the environment, that impacts the rate of evaporation; and the temperature also impacts the rate of evaporation.
Separately, the temperature has been studied in -- particularly in laboratory environments as to the impact of -- on the persistence of SARS-CoV-2. And in those studies, higher temperature is correlated with a more rapid inactivation of the virus.
Q. How is humidity correlated with inactivation

Page 111

of the virus?
A. So most of these studies are done on surfaces. And it -- at -- so it's not a linear relationship. It is more of a U-shaped relationship. So in the middle zone, say 40 to 60 percent relative humidity, is where the highest rates of inactivation. So that inactivates faster. And then the more humid or the less humid outside of those result in slower rates. But that is if you keep all of the other factors constant.
Q. Okay. And the other factors could include temperature?
A. Correct.
(Exhibit No. 16, Suhs Article marked for identification)
Q. Exhibit 16 looks like an article or a manuscript titled "COVID-19 Outbreak Associated with a Fitness Center in Minnesota, September to November of 2020." It looks like it's published in -- this says, at the bottom, "The Author(s) 2021. Published by Oxford University Press." Is this another article that's cited in your Appendix C?
A. Yes, it is. The journal is the "Clinical Infectious Diseases."
Q. And did you locate this in your -- as part of

Page 112

your search for information regarding fitness clubs?
A. Yes.
(Exhibit No. 17, Liu Article marked for identification)
Q. Exhibit 17 is titled "Investigating SARS-CoV-2 Persistent Contamination in Different Indoor Environments." It states that it was available online on July 28, 2021. Is this an article that's identified in your Appendix C?
A. Yes.
Q. Okay. Do you recall what your purpose was for listing this article in your Appendix C?
A. Let me review the abstract briefly.
Yes. So I included this article because it investigates the persistence of SARS-CoV-2 in a number of environments. Particularly, it looks at collection of samples that from, in this case, I believe it said a department store that had been closed for unknown period of time and looked for the presence of viral RNA and the presence of infectious virus. They tested for both.
Q. And did it also look at an apartment as well?
A. Yes, that's correct.
Q. All right. And when you -- when you use the term "persistence," what do you mean by that?

Page 117

they are doing it with controls to try to rule out that there was something in the sample that inhibited or created a false positive. So, generally, when you're saying -- when researchers say that no virus was -- no viable virus or no infectious virus was found, they mean that it -- there were no signs of infection of those cells in the laboratory.

Q. If you look at page 12 of this article which is Exhibit 17.

A. Okay.

Q. In the conclusion, it says, "SARS-CoV-2 RNA can be detected by RT-PCR 57 days after the last exposure in room-temperature environments, much longer than previous reports. Doorknobs and toilets, bathrooms, in paren, were important positions in COVID-19 control. Infectious SARS-CoV-2 can exist for at least 60 days on the surface of cold-chain food packages under minus 18 degrees Celsius. High risk populations of cold-chain-related logistic operations such as porters require strict prevention and high-level personal protection. Even after disinfection, SARS-CoV-2 RNA can still be partially detected in the environment. Cleaning with water and detergent is an effective way to eliminate the persistent existence of RNA fragments on

Page 118

environmental surfaces." Do you see all that?

A. I do.

Q. Okay. Does that -- does it look like they then did some culturing on the samples that they got from the -- from the food packages? Because they say that infectious SARS-CoV-2 can exist for at least 60 days.

A. I am not remembering.

Q. Because I didn't see that either.

A. I don't see it. I think that they are referring to another study.

On page 10, it says, "In low temperature environments under minus 18 degrees C" -- are you with me?

Q. Yeah.

A. Okay.

-- "the infectious virus particle could survive longer than an in-room temperature environments." And then they reference various articles. So I think that they are referring to those.

Q. Okay. And then when they say, "Cleaning with water and detergents is an effective way to eliminate the persistent existence of RNA fragments on environmental surfaces," I guess my question is why would you even care about RNA fragments on environmental surfaces enough to

Page 119

even bother cleaning them?

A. I find this statement to not make a lot of sense because I have no idea why you would care if there were RNA fragments on the surface. In real-world environments, we are constantly -- humans are constantly shedding all sorts of biological material that ends up on the surfaces around us. That biological material has RNA in it. Also, various viruses have RNA in it which may be emitted, not just SARS-CoV-2, but other viruses that are RNA-based viruses. Microbes such as bacteria and fungi also have RNA in them. And all of these things are normally on the surfaces around us. And so it's not unusual in any way to find RNA on surfaces. And it's not harmful in any way. So I just -- I really don't understand the purpose of that statement.

Q. Okay.

A. Perhaps -- actually, I'm just thinking now. Perhaps what they were implying is that RNA -- we -- we know from other studies that SARS-CoV-2 viral RNA can persist on surfaces much longer. So if you're doing a -- much longer, sorry, than infectious virus. So if you were doing a study based on viral RNA only, you may overestimate -- or likely you will overestimate the persistence of infectious virus on those surfaces or

Page 120

under those conditions. So perhaps they're saying -- they're trying to warn against that. But I can't say for sure.

MR. WEISS: Let's do 15.

(Exhibit No. 18, Article from CDC COVID-19 Response Team marked for identification)

Q. Exhibit 18 is an article titled "Geographic Differences in COVID-19 Cases, Deaths, and Incidence -- United States, February 12 to April 7, 2020." And it was published April 17, 2020, by the CDC and the U.S. Department of Health and Human Services. Is this an article that's referenced in your Appendix C?

A. Yes, it is.

Q. And do you recall why you referenced this article?

A. I do not recall specifically. It may have been -- it may have been in regards to reading Dr. Carnethon's report. And she had mentioned in her report certain geographical differences, and so I -- I may have reviewed this article in conjunction with reviewing her report.

Q. Okay. Do any of your opinions have to do with the geographic prevalence -- the prevalence of SARS-CoV-2 or COVID-19 in different geographic areas in

Page 129

laboratory studies on those types of materials or real-world studies that may be similar context.

Q. If you go to page 164 of your deposition -- of your trial transcript testimony. So it should say page 161 to 164 at the bottom.

A. Okay. On page 164, you said?

Q. Yeah.

A. Okay.

Q. And then on line -- beginning on line 18 and going to line 20, you say, "Viruses and biological material are everywhere. It's coating all of the surfaces around us." Do you see that?

A. I do.

Q. Okay. And that's still your belief today; correct?

A. Let me just -- it is my belief, but let me clarify what I meant by that.

I didn't mean that every single surface that you touch will have a specific -- that you investigate will have a specific virus or a specific biological material. But rather, as I was describing before, humans are constantly emitting respiratory droplets or we're -- we're shedding skin cells. We're -- when we touch things, we leave behind skin oils. There are different

Page 130

types of microbes all around us. And so, just generally, when I say "everywhere," I mean around in the environment.

Q. In your average fitness club where people are working out throughout the day and breathing heavily, would you be surprised not to find viruses of some sort or another on surfaces within a gym at any given time?

A. Viruses in particular? Many -- many respiratory viruses, which I think is what you're referring to when you're saying "breathing," those may degrade fairly rapidly, and so we may not find infectious virus. But I would be very surprised if we didn't find some sort of genetic material from viruses.

Q. Does the fact that you find genetic material for viruses on a surface mean that at some point in time those -- that viral material was infectious when it was on the surface?

A. No, it doesn't mean that.

Q. Why not?

A. Because just as a simple example -- there's complex reasons. Let's see. So to start with, when you breathe out, the respiratory droplets start to evaporate and rapidly inactivate many viruses. We already talked about in this context. So by the time that it lands on

Page 131

the surface, it may not be infectious.

Q. Would it have been infectious at some point between the time it was exhaled from the individual to the time it hit the surface?

A. Also not necessarily.

Q. Okay. Why not?

A. Because not all of the genetic material from the virus that is inside of your body or inside of your mouth is associated with infectious virus. It can be understood, at least in part, because your immune system is working against those viruses, and so they are working to degrade those viruses. And so you'll have -- you will still have potentially viral RNA in a sample that -- or, like, in your body that isn't associated with an infectious virus anymore.

Q. If you go to page 161 of your testimony. So that would be the -- I guess the top left block.

A. Yes.

Q. At the -- beginning at line 28, you say, "So if a new virus had the ability to somehow change the underlying surface to eat into it or to dissolve it, that would be a new type of virus and perhaps not even a new virus. It would be something that was brand new in biology that's unknown. Certainly, if this was the case,

Page 132

it would have been reported in the scientific literature."

What were you intending to convey by that statement?

MS. MANZO: Objection to form.

A. So, in part, this was in response to a line of questioning that was focused on whether because viruses interacting with surfaces hadn't -- in a way that damaged the underlying surface hadn't been reported, does that mean that it just hasn't been reported? So it was, in part, in line with questions -- or to discuss and respond to questions along those lines.

And what I was trying to convey is that it has been understood for a long time how viruses interact with inanimate surfaces in terms of the general types of forces that are involved; and, also, that viruses are understood, as part of the definition of a virus, that they are not able to infect inanimate objects. They can only infect host cells. And so the -- and then outside of the host cell, they are inert in that they don't change the environment around them outside of a host cell.

Q. Okay. And when you say "they don't change the environment around them," what do you mean by that?

Page 133

A. Well, so I gave some examples in here such as dissolving a surface or emitting different types of toxic gases or somehow burrowing into a surface would be some examples of things viruses don't do.
Q. Okay.
MS. MANZO: When we get to a good breaking point.
MR. WEISS: We can take a break now. That's fine.
THE VIDEOGRAPHER: We are going off the record at 1:59 p.m.
(Recess)
THE VIDEOGRAPHER: Back on the record at 2:14 p.m.
(Exhibit No. 20, Sauer-Budge Expert Declaration marked for identification)
Q. I've marked as Exhibit 20 "Expert Declaration of Dr. Alexis Sauer-Budge in Support of Defendant Lexington Insurance Company's Opposition to Plaintiff's Motion for Summary Adjudication, and Notice of Motion and Memorandum in Support of Lexington's Cross-Motion for Summary Judgment" in the Santa Ynez Band of Chumash Mission Indians versus Lexington Insurance Company. Do you recognize Exhibit 20 as a declaration that you

Page 134

submitted in the Santa Ynez case?
A. Yes.
Q. And is that one of the cases that you also gave deposition testimony in?
A. Yes.
Q. Okay. I don't have any other questions about that one.
So part of your opinions in this case involve your view that viruses like SARS-CoV-2 adhere to surfaces; correct?
A. By "adhere," you mean -- if you mean they interact with weak intermolecular forces such as van der Waal's electrostatic -- electrostatic interactions and hydrophobic interactions, then -- if that's -- if that's what you mean, then --
Q. It is.
A. -- yes, they interact that way.
Q. And another term used is "adsorb"; correct? As opposed to "absorb" with a b, "adsorb" with a d.
A. That is correct. Viruses adsorb, with a d, to inanimate surfaces.
Q. And if you were to try to explain what adsorption means to a layperson, how would you explain it?

Page 135

A. Adsorption, with a d, is the process of organic material settling onto a surface, as opposed to absorption, with a b, where it -- the -- the object that we're talking about sinks into or goes into the material.
Q. Okay. Does the process of adsorption, with a d, involve a level of the substance, you know, sticking to the surface at all, or is there any aspect of that in the concept of adsorption?
A. So "sticking" is -- is not a scientific term. The -- the way that it involves -- I'm trying to answer your question.
Q. Yeah, let me ask it differently.
When a virus or other biologic material lands on a surface, is there some process by which it is able to stay on the surface and not just, you know, fall off the surface?
A. Yes.
Q. Okay.
A. So when materials interact -- and, in this case, we're talking about a biological material, SARS-CoV-2 -- with an inanimate surface, when they -- materials come close together, whether it's the ones I was talking about or just in general, they come together, weak intermolecular forces start to come into play. So

Page 136

as they touch each other, you will have the same types of interactions which are a combination of attractive and repulsive forces. And if a force acts upon it, it's reversible, and you can take them apart. So -- just like I took my two fingers apart here.
Q. Okay. And with regard to the SARS-CoV-2 virus, you do agree that there is at least some period of time where the SARS-CoV-2 virus can be infectious and be on a surface; correct?
A. So whether the virus is infectious on the surface is a function of the environment that it's in. It is possible that it can be.
Q. Okay. And do you agree that the primary way by which SARS-CoV-2 virus reaches a surface is through the air?
MS. MANZO: Objection to form.
A. The way you phrase this is a little bit hard, but if you mean the primary way is through respiratory droplets emitted by a person sick with COVID-19, and then those, at some point, coming in contact with surfaces, that's -- that's the primary way. I agree with that.
Q. All right. And to get from the infected person to the surface, they at least have to be in the air for some period of time?

Page 137

A. Yes, they have to be in -- well, I suppose unless they're really close to the surface and licking it or something. I could think of options where that's not the case.

Q. Okay.

A. But, generally, yes, those respiratory droplets need to travel at least some distance through the air.

Q. And do you agree that even if you're able to clean a virus like SARS-CoV-2 from a surface, as hosts come in and out of a location, the virus might be reintroduced onto surfaces; correct?

MS. MANZO: Objection to form.

A. So I think you're asking if one person comes in, is sick with COVID, emits virus, and the conditions are -- allow that virus to be infectious on the surface, then somebody comes by and disinfects the surface -- the virus may have already degraded on its own, but somebody comes by, disinfects the surface, then somebody else comes in to the exact same spot who is sick with COVID and, again, breathes onto the surface, there is a possibility that infectious virus from that second person can be introduced to that same surface.

Q. The studies that have been done of how long --

Page 138

well, let me ask this. Are you aware of any studies that have been done in a real-life operating business where people are coming in and out on a daily basis to test whether live virus is present as the business is operating on a daily basis as opposed to just looking at virus on the surface and looking at it again a number of days later to see if it's still live but without this ongoing daily interaction of people coming in and out? If you get -- if you understand what I'm saying.

A. I'm not fully sure, but let me try.

Q. Uh-huh.

A. The -- I think you're asking about frequency of sampling? Is that correct?

Q. Right. So let's take a fitness club like 24 Hour Fitness.

A. Yes.

Q. And it's operating -- it might be operating 24 hours a day, seven days a week with people coming in and out. Are you aware of any tests that attempted to identify on a -- like, a daily basis the level of virus that might be present in an operating facility like that where people are coming in and out all the time?

A. Let's see. To be -- there are some studies which measure or sample from the same general locations

Page 139

in subsequent periods of time. I'm not aware of any that do it on -- at a high frequency such as daily or minute by minute.

Q. Okay. So a study that would, you know, evaluate how long SARS-CoV-2 might persist on a piece of metal over, you know, some period of time, let's say 20 days, is not really that useful to a business like a gym where people are coming in and out every hour or half an hour and some -- and some may be sick and some may have viruses, and, you know, it might -- how -- you know, for an operating business, how useful do you think a study is of the persistence of a virus on a given piece of material over a period of time?

MS. MANZO: Objection to form.

A. So, in general, there are two types of studies which can provide some information that I think has utility to businesses who are considering operational choices. The ones where we can measure the persistence time of a virus, SARS-CoV-2, in -- over time and measure at -- at, you know, different frequencies -- it could be hours. It could be minutes. It could be days. Those are primarily conducted in a laboratory environment because you can control the various factors that would impact the persistence time.

Page 140

So as we already discussed, I believe, a variety of factors can change those times. And so if you want to look at persistence time, you need to control these other factors. And that can primarily be and possibly only be done in a laboratory.

Laboratory studies have limitations into -- with regards to how -- how much you can take that data and interpret that data and then infer information about what happens in the real world.

So on the other side, you have real-world studies where you may have people who are sick with COVID-19 emitting potentially infectious virus. In those cases, you cannot control when it's emitted, how much it is emitted, whether it's actually infectious by the time it gets to a surface. So you can't control those things. But on the other hand, you can understand if I take measurements at different places or at a certain time when a person who is sick in -- in the room is present, then you can take that information, but you have to really understand the limitations and the strengths of both types of studies. I think both have utility in understanding what happens, but they are different sorts of experiment s.

Part of the reason why you can't do a -- the

Page 141

type of study that you're asking about is because the -- you cannot control the amount of virus that is introduced. So it would be -- clearly, it would be unethical to take infectious SARS-CoV-2 and spray it in an operating business. So we can't do that.

Q. Or bring people that you know are infected into the business?

A. For the same reason. It would be unethical to carry out a -- some sort of study like that.

Q. So the one that we looked at earlier where -- in the department store where they knew that the department store was closed for 57 days, and they went in and they found at least viral RNA in -- does that type of study have -- in your opinion, have any utility for a business like a 24 Hour Fitness who's trying to figure out how to operate every day? Because, presumably, they would actually be open and operating during those 57 days with people coming in and out all the time.

MS. MANZO: Objection to form.

A. So I think any utility is -- I think there's some utility. I don't know that it provides a significant amount of information to inform operational -- daily operational choices, that particular study.

Page 142

Q. Are you aware of any studies regarding the persistence of COVID-19 or the SARS-CoV-2 virus on surfaces that would be -- that would provide a significant amount of information to inform operational or daily operational choices, as you said?

A. So I think this -- the sum of the laboratory data and the real-world studies do provide potentially actionable information.

Q. Okay. And, in your opinion, what actual information do they provide?

A. So I believe that they provide information as to the general conditions under which SARS-CoV-2 is more likely to remain infectious in an environment; particular information about the effectiveness of different disinfection chemistries; the -- and then some information with regards to distance that you may find -- you may be able to collect infectious virus or detect infectious virus away from somebody who is sick. So those, to me, would provide information that would be useful. I'm not involved in developing mitigation protocols, but I think that that information is useful.

Q. Okay. Let's go back to Exhibit 8 which is your report. Let's see. If you go to page 2, the qualifications section.

Page 143

A. Okay. I'm there.

Q. In paragraph -- in paragraph 2.2, you say, "Broadly speaking, my expertise is at the interface of biology and materials." Can you explain what you mean by that?

A. Yes. So, generally, I describe it as the interface between biology and materials because I'm thinking biology, or what I'm trying to explain by biology, means living or organic material and how those interact with inanimate materials. So that's the materials aspect. So the organic or biological materials and how those interact with inanimate materials.

Q. And then if you go to page 4 of your report, paragraph 3.2, we're now on the executive summary.

A. Yes.

Q. You say, "For reasons explained further below, it is my opinion that there is no scientific basis for the assertion that SARS-CoV-2 adversely affects the surfaces or surrounding air it contacts or that this coronavirus remains infections" -- "infectious after either general degradation or disinfection by one of a wide range of effective means." Do you see that?

A. I do.

Q. Okay. And how do you define what it means for

Page 144

something to "adversely affect" a surface?

A. So there are a number of different mechanisms that potentially could fall under that description. One of them would be if there was some sort of chemical reaction that changed the underlying material. One could be more of a physical mechanism such as creating holes in the material that would damage its mechanical stability. There could be a material that interacts with it such that -- not -- not necessarily that there's a chemical reaction, but such that the material is changed in a way that -- that makes it no longer useful for the particular context, I guess. So I'm thinking of, for example, staining. If a dye were -- or bleach were put on a material, then there could be a significant stain. And if that material was used, I don't know, as clothing, for example, you probably wouldn't want to use it anymore.

Q. Okay. And then when you talk about adversely affecting surrounding air, can you explain what you mean by that?

A. Yes. So the -- so air is -- when I refer to air, I'm referring to the gaseous material which is primarily nitrogen with -- well, 78 percent nitrogen, 21 percent oxygen, and then 1 percent of everything else. That "everything else" includes other gases but also

COMMONWEALTH OF MASSACHUSETTS
ESSEX COUNTY

I, DEBORAH J. BATEMAN, Court Reporter and Notary Public in and for the Commonwealth of Massachusetts, do hereby certify that the witness whose deposition is hereinbefore set forth, was duly sworn and that such deposition is a true record of the testimony given by the witness.

I further certify that I am neither related to or employed by any of the parties in or counsel to this action, nor am I financially interested in the outcome of this action.

I witness whereof, I have set my hand and seal this 1st day of September 2023.

____

Deborah J. Bateman, Notary Public in and
for The Commonwealth of Massachusetts
My Commission Expires: November 2, 2023

DEPOSITION ERRATA SHEET

Our Assignment No. J10132740
Case Caption: 24 HOUR FITNESS WORLDWIDE, INC. vs CONTINENTAL CASUALTY COMPANY

DECLARATION UNDER PENALTY OF PERJURY

I declare under penalty of perjury that I have read the entire transcript of my Deposition taken in the captioned matter or the same has been read to me, and the same is true and accurate, save and except for changes and/or corrections, if any, as indicated by me on the DEPOSITION ERRATA SHEET hereof, with the understanding that I offer these changes as if still under oath.

Signed on the ______ day of
____________, 2023.

____

DR. ALEXIS SAUER-BUDGE

DEPOSITION ERRATA SHEET

Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
SIGNATURE:______________________DATE:___________
DR. ALEXIS SAUER-BUDGE

DEPOSITION ERRATA SHEET

Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
Page No._____Line No._____Change to:____________________
____
Reason for change:__________________________________
SIGNATURE:______________________DATE:___________
DR. ALEXIS SAUER-BUDGE